

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 - 32. (Cancelled)

33. (Previously Presented) A method implemented by a network node for controlling a queue buffer, the queue buffer being connected to a link and being arranged to queue data units of a flow in a queue, comprising the steps of:

determining a value of a length parameter related to the length of the queue;

comparing the value with a length threshold value;

performing a congestion notification procedure if the value is greater than the length threshold value, wherein the congestion notification procedure when performed drops or marks one or more data units;

performing an automatic threshold adaptation procedure, wherein the automatic threshold adaptation procedure comprises a procedure for adjusting the length threshold value on the basis of one or more flow control parameters, wherein the automatic threshold adaptation procedure determines when the congestion notification procedure would be performed to drop or mark one or more of the data units; and

determining, in a procedure, one or more of the one or more flow control parameters from a flow control parameter introduced by one of a sender and a receiver of the flow queued in the queue;

introducing the flow control parameter by the receiver and inserting it into data units sent from the receiver to the sender; and

wherein the buffer is provided in a network node of a communication network connecting the sender and the receiver, further comprising the step of extracting, in a procedure for determining the flow control parameter, the flow control parameter from the data units at the network node.

34. (Previously Presented) The method of claim 33, wherein the one or more flow control parameters are predetermined values.

35-36. (Canceled)

37. (Currently Amended) The method of claim ~~[[34]]~~ 33, wherein the data units sent from the receiver to the sender are acknowledgment data units so as to acknowledge the correct receipt of data units.

38. (Canceled)

39. (Previously Presented) The method of claim 37, wherein the buffer is provided in a first network node of a communication network connecting the sender and the receiver, further comprising the steps of:

extracting, in a procedure for determining the flow control parameter, the flow control parameter from the acknowledgement data units at a second network node different from the first network node; and

sending the flow control parameter from the second network node to the first network node.

40-42. (Canceled)

43. (Previously Presented) The method of claim 33, further comprising performing a rate-based flow control for the flow in the queue, wherein one of the one or more flow control parameters is a control rate.

44. (Previously Presented) The method of claim 43, wherein the control rate is introduced by the receiver and expresses a data rate limitation for arriving data units that the receiver can handle.

45-51. (Canceled)

52. (Previously Presented) The method of claim 33, as implemented in a computer program product arranged to execute the method on a programmable data processing device connected to a communication network containing the link.

53. (Previously Presented) A network node including a queue buffer controller for controlling a queue buffer coupled to a link and arranged to queue data units of a flow in a queue, comprising:

- a queue length determinator for determining a value of a length parameter related to the length of the queue, a comparator for comparing the value with a length threshold value;

- a congestion notifier for performing a congestion notification procedure if the value is greater than the length threshold value, wherein the congestion notification procedure when performed drops or marks one or more data units;

- a threshold adaptor for automatically adapting the length threshold value, wherein the threshold adaptor is arranged for adjusting the length threshold value on the basis of one or more flow control parameters, wherein the automatic threshold adaptation procedure determines when the congestion notification procedure would be performed to drop or mark one or more of the data units; and

- a flow control parameter determinator for determining one or more of the one or more flow control parameters from a flow control parameter introduced by one of a sender and a receiver of the flow queued in the queue;

- the flow control parameter being introduced by the receiver and inserted into data units sent from the receiver to the sender; and

- the queue buffer being provided in a network node of a communication network connecting the sender and the receiver, wherein the flow control parameter determinator is arranged for extracting the flow control parameter from the data units at the network node.

54. (Previously Presented) The network node of claim 53, wherein the one or more flow control parameters are predetermined values.

55. (Previously Presented) The network node of claim 54, wherein the predetermined values are stored in the queue buffer controller and associated with known flow control procedures for data unit receivers.

56. (Canceled)

57. (Previously Presented) The network node of claim 53, wherein the data units sent from the receiver to the sender are acknowledgment data units so as to acknowledge the correct receipt of data units.

58. (Previously Presented) The network node of claim 57, wherein the flow control parameter is introduced by the receiver and inserted into acknowledgment data units sent from the receiver to the sender for acknowledging the correct receipt of data units, and wherein the queue buffer is provided in a first network node of a communication network connecting the sender and the receiver, wherein the flow control parameter determinator is arranged for receiving the flow control parameter from a second network node at which the flow control parameter was extracted.

59-64. (Canceled)